

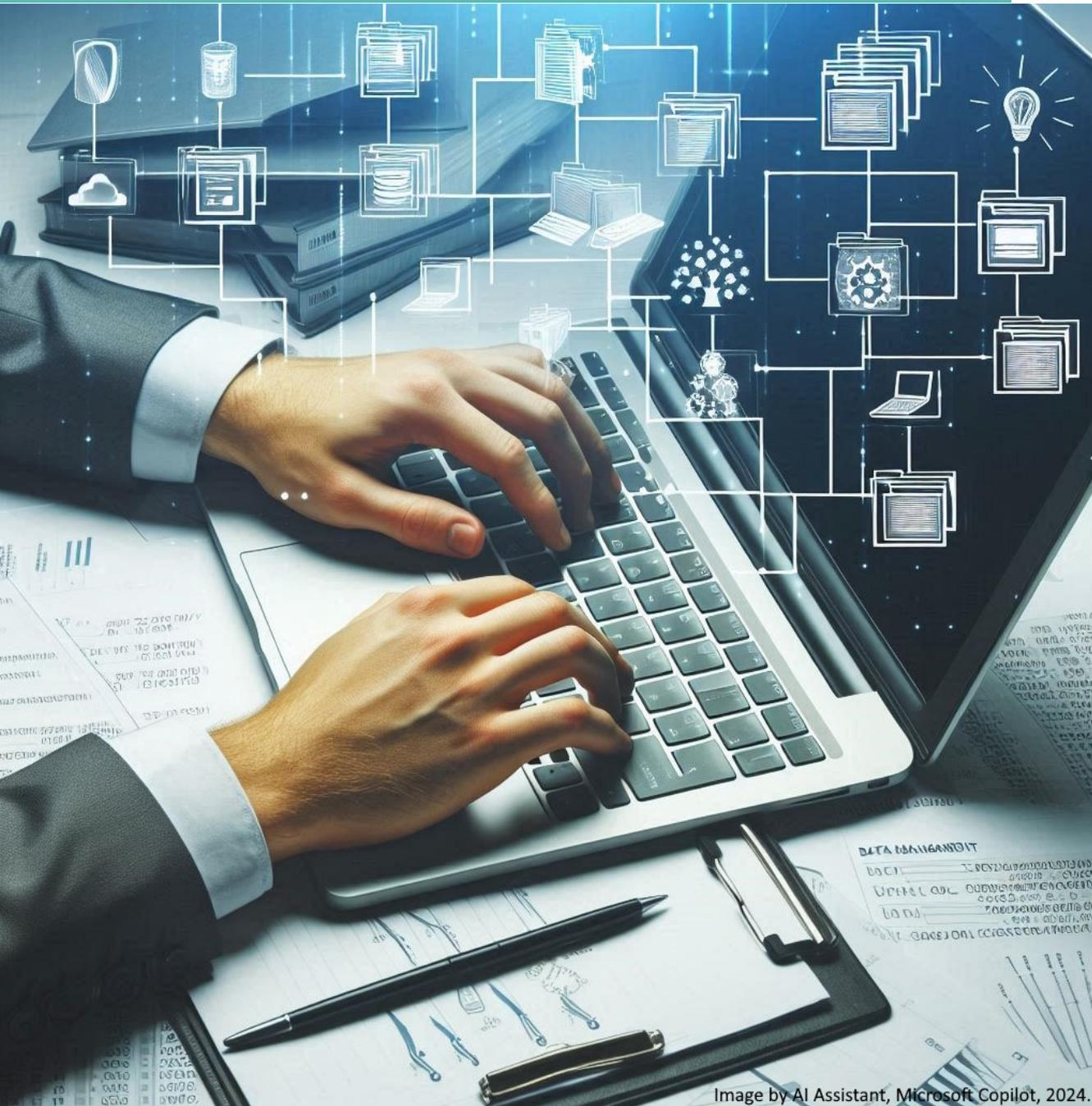


Fakulta rybnářství
a ochrany vod
Faculty of Fisheries
and Protection
of Waters

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

CENAKVA

South Bohemian Research Center
of Aquaculture and Biodiversity
of Hydrocenoses



Data management at CENAKVA LRI

Jaromír Kovárník
Praha 9-11. 10. 2024



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of Hydrocenoses

Faculty of Fisheries and Protection of Waters

University of South Bohemia

Core Focus:

- Research and education in freshwater fisheries, aquaculture,
- and water protection.

Main Activities:

- Applied research and commercialization.
- Lifelong learning programs.
- Partnerships with industry, government agencies, and other institutions.

Unique Position:

- Only faculty of its kind in the Czech Republic.

International Collaboration:

- Active in European projects and exchange programs.





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South Bohemian Research Center of Aquaculture and Biodiversity of Hydrocenoses (CENAKVA)

Focus Areas:

- Quality of freshwater fish
- Biology and conservation of sturgeons
- Sustainable pond and intensive aquaculture
- Biology and conservation of crayfish and other invertebrates
- Water quality and aquatic environment

Research Facilities:

40 hectares of experimental ponds, Closed recirculating and aquaponic systems

Breeding and reproduction of nearly 30 species of freshwater fish and crustaceans

Laboratories: Advanced biological, chemical, and toxicological laboratories

International Collaboration: Part of European research infrastructure, collaborating with 22 partners from 12 European countries



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South Bohemian Research Center
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- **RP1: Reproductive and Genetic Procedures for Fish Biodiversity Conservation and Aquaculture**
 - Focuses on fish reproduction and genetics to conserve biodiversity and support aquaculture
- **RP2: "New" Pollutants in the Environment and Their Effect on Freshwater Ecosystems**
 - Investigates the impact of emerging pollutants on freshwater ecosystems and seeks ways to mitigate these effects
- **RP3: Sustainable Aquaculture with Responsible Water and Nutrient Management**
 - Aims to develop sustainable aquaculture practices that efficiently use water and nutrients.
- **RP4: Freshwater Ecosystems in the Era of Global Change**
 - Studies freshwater ecosystems and their responses to global changes, such as climate change



data management challenges

- The pressure to the data management will be increasing
- All project applications contain data management part
- Unified OS policy in development
- Dean's measure - Experimental Data and Metadata Processing by Doctoral Students
- reluctance, fear of opening data.



Open Science Communication

- 1. Data steward:** personal survey in all laboratories
- 2. Lectures and Training:** lectures and training sessions where researchers can learn about the principles and benefits of open science.
- 3. Important Information via Email:** Researchers regularly receive important information about open science through emails, which include updates, new policies, and opportunities for involvement.
- 4. Information on a Specialized Page at JU:** The University of South Bohemia (JU) has a specialized webpage where information about open science is available, including guides, resources, and current news.
- 5. Participation in International Events, such as OAW (Open Access Week):** Researchers can participate in international events like Open Access Week, where the latest trends and challenges in open science are discussed, and best practices are shared.



Data types

Tabular Data:

- **Formats:** .xls, .xlsx, .csv
- **Usage:** Measurement and weighing of fish, growth and mortality data, feeding experiments, toxicological studies, growth curves, biochemical data.

Video Files:

- **Formats:** .avi, .mp4, .mkv
- **Usage:** studies on fish and crayfish behavior, videos of cell behavior, and fish appearance.

Image Files:

- **Formats:** .tiff, .jpg, .png
- **Usage:** Microscopy images, fish appearance, cytometric measurements, compressed images.



Data types

Special Scientific Formats

- **Formats:** **.fsa** (DNA sequencing), **.fcs** (cytometry), **.fastq** (raw sequence reads), **.bw** (BigWig, methylation visualization), **.bed** (DNA annotations), **.bam** (aligned sequence data)
- **Usage:** DNA sequencing data and cytometric measurements.

Other Formats:

- **Formats:** **.txt** (text data), **.pdf** (documents and reports)
- **Usage:** Processed data, graphs, tables, and reports.



Data

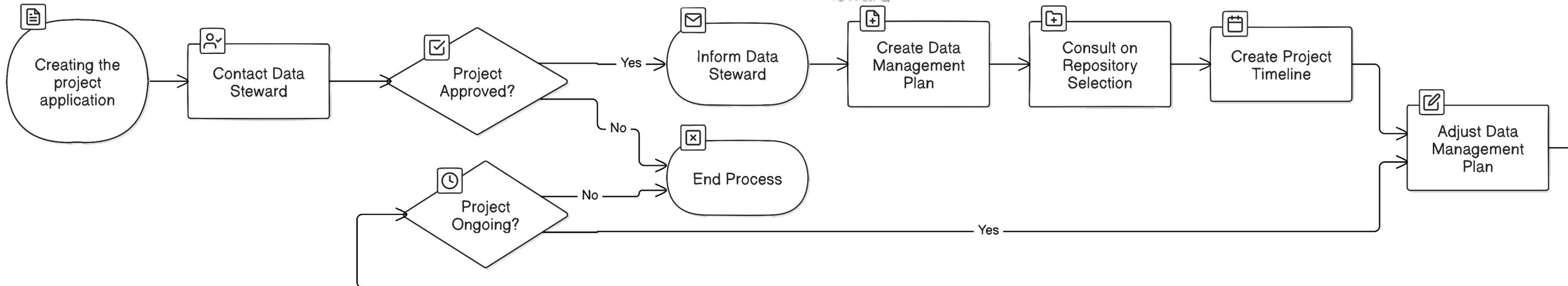
- **Sturgeon Gene Bank:** The largest in the world, encompassing various sturgeon species.
- Research on **New Pollutants:** Analysis of the impact of emerging pollutants on freshwater ecosystems.





Data management

- Established Data Stewards position





Repositories

General data repositories:

- Zenodo
- Mendeley Data
- Dryad

Laboratories: 14
Share data : 3

Subject-specific data repositories:

- NCBI
 - Provides access to biomedical and genomic information.

Other Subject-specific storage

- www.iaffd.com
- www.feedipedia.org
 - data from the fish feeding experiments.

List of FAIR datasets is on CENAKVA website.

<https://www.frov.jcu.cz/en/faculty/faculty-parts/south-bohemian-research-centre-for-aquaculture-and-biodiversity-of-hydrocenoses-cenakva/large-research-infrastructure-cenakva#7>



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EOSC - CZ

Especially groups:

- Environmental Sciences
- Bio/Health/Food

Institutional repository

- based on Dspace
- limited capacity
- under construction



Possible cooperation with MU on repository with toxicological data